

Mineral Industry Surveys

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VANADIUM IN MARCH 2003

Domestic consumption of vanadium in March 2003 was about 9% more than that of the previous month and was about 5% more than that of March 2002, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 189 metric tons at the beginning of 2003.

According to Ryan's Notes (2003c), the range for U.S. ferrovanadium prices during March was \$5.413 to \$5.663 per pound of vanadium content, as compared with \$4.500 to \$4.650 in February. European ferrovanadium ranged from \$12.556 to \$12.913 per kilogram of vanadium content in March as compared with \$10.800 to \$11.250 in February. In March, vanadium pentoxide prices ranged from \$2.400 to \$2.613 per pound, as compared with \$1.856 to \$1.981 in February.

Little vanadium pentoxide production was exported from Russia into Europe in March, as a dispute between the owners of the Tulachermet plant, Tula, Russia, continued (Ryan's Notes, 2003a). Combined with the closure of the Windimurra

Mine in Australia, tightened supplies boosted ferrovanadium prices in Europe and the United States.

In related news, U.S. producer Stratcor has stated it will continue to meet the feedstock requirements of its Brits, South Africa, plant by purchasing vanadium-bearing slags, rather than mining ore from its captive Brits Mine (Ryan's Notes, 2003b). It is believed the slags will be purchased from Highveld Steel and Vanadium, which has supplied the Brits plant in the past. Ironically production at the Brits Mine was shut down in 2000 when the Windimurra Mine opened.

References Cited

- Ryan's Notes, 2003a, Europe leads FeV and Mo markets: Ryan's Notes, v. 9, no. 11, March 17, p. 2.
Ryan's Notes, 2003b, FeV firms; Stratcor renews slag contract: Ryan's Notes, v. 9, no. 9, March 3, p. 3.
Ryan's Notes, 2003c, [Untitled]: Ryan's Notes, v. 9, no. 14, April 7, p. 4.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM¹

(Kilograms, contained vanadium)

	2002 ^p		2003			
			February		March	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	2,790,000	189,000 ^r	222,000 ^r	181,000 ^r	241,000	174,000
Vanadium-aluminum alloy	W	W	W	W	W	13,400
Other ³	351,000	20,200	20,900 ^r	20,600 ^r	31,100	6,840
Total	3,140,000	209,000 ^r	243,000 ^r	202,000 ^r	273,000	194,000

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Other."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

³Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE¹

(Kilograms, contained vanadium)

	2002 ^p	2003		
		February	March	Year to date ³
Steel:				
Carbon	878,000	63,500 ^r	60,900	196,000
High-strength low-alloy	W	W	W	W
Stainless and heat-resisting	36,600 ^r	2,690 ^r	1,990	6,560
Full alloy	754,000	57,700 ^r	73,600	202,000
Tool	265,000	21,000 ^r	22,500	66,200
Total steel	1,930,000 ^r	145,000 ^r	159,000	471,000
Superalloys	13,400	926 ^r	1,110	3,120
Miscellaneous and unspecified ²	1,190,000 ^r	96,700 ^r	112,000	284,000
Total consumption	3,140,000	243,000 ^r	273,000	783,000

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes cast irons, high-strength low-alloy steel, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

³Includes revisions to prior month's data.

TABLE 3
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND VANADIUM
METAL, INCLUDING WASTE AND SCRAP¹

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2002	97,500	\$206,000	32,300	\$1,270,000
2003:				
January	39,600	62,700	9,830	141,000
February:				
Canada	5,260	10,300	--	--
Germany	--	--	51	20,200
Russia	--	--	1,110	87,200
Total	5,260	10,300	1,160	107,000
Year to date	44,800	73,000	11,000	248,000
Exports:				
2002	529,000	11,700,000	49,200	898,000
2003:				
January	87,300	1,150,000	39,100	2,100,000
February:				
Australia	407	5,290	--	--
Austria	--	--	63	70,400
Canada	66,300	677,000	--	--
China	978	12,700	--	--
Colombia	675	6,890	--	--
Ecuador	296	3,020	--	--
Germany	442	4,510	--	--
Hong Kong	4,350	103,000	--	--
Japan	4,640	116,000	--	--
Korea, Republic of	--	--	172	35,400
Mexico	3,210	32,700	--	--
Russia	--	--	18,200	229,000
Singapore	6,680	86,900	--	--
United Kingdom	4,030	43,700	12	13,200
Total	92,000	1,090,000	18,400	348,000
Year to date	179,000	2,240,000	57,500	2,450,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM¹

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) ²		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2002	2,520,000	\$19,400,000	406,000	\$1,990,000	42,300	\$560,000
2003:						
January	121,000	1,050,000	24,700	161,000	--	--
February:						
Austria	15,600	138,000	--	--	--	--
Belgium	48,600	428,000	--	--	--	--
Canada	32,800	323,000	--	--	--	--
Germany	--	--	200	5,870	--	--
South Africa	--	--	60,500	307,000	--	--
Total	96,900	890,000	60,700	313,000	--	--
Year to date	217,000	1,940,000	85,400	474,000	--	--
Exports:						
2002	142,000	1,550,000	91,200	568,000	203,000	1,700,000
2003:						
January	12,200	157,000	60,100	503,000	19,400	185,000
February:						
Australia	688	8,000	--	--	--	--
Brazil	316	9,610	--	--	--	--
Canada	6,120	81,400	--	--	9,100	102,000
India	--	--	--	--	6,910	55,500
Italy	--	--	275	2,610	--	--
Japan	--	--	4,020	38,200	1,040	9,230
Mexico	14,800	142,000	--	--	--	--
Philippines	249	5,420	--	--	--	--
Taiwan	--	--	2,710	25,700	--	--
Total	22,200	246,000	7,000	66,500	17,000	166,000
Year to date	34,400	404,000	67,100	569,000	36,400	166,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include catalysts containing vanadium pentoxide.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG¹

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2002	3,830,000	\$520,000	10,300,000	\$1,560,000	243,000,000	\$19,900,000
2003:						
January	37,100	2,480	792,000	139,000	4,540,000	254,000
February, Canada	--	--	531,000	93,100	575,000	72,300
Year to date	37,100	2,480	1,320,000	232,000	5,110,000	326,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS¹

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2002	14,100	\$390,000	48,100	\$567,000
2003:				
January	--	--	50	3,710
February, South Africa	--	--	9,550	97,700
Year to date	--	--	9,600	101,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.